

Date: Tue, 9 Aug 94 04:30:14 PDT
From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>
Errors-To: Ham-Ant-Errors@UCSD.Edu
Reply-To: Ham-Ant@UCSD.Edu
Precedence: Bulk
Subject: Ham-Ant Digest V94 #252
To: Ham-Ant

Ham-Ant Digest Tue, 9 Aug 94 Volume 94 : Issue 252

Today's Topics:

900 MHz FM

Bonehead: How do you tune an antenna with a noise bridge?
Correction RG58 vs Thin Ethernet
CushCraft 6M Yagi info?
Ham-Ant Digest V94 #251 -Reply
WANTED:Flyecraft Antenna
Which telesc. ant. for Yaesu ft-26 ?

Send Replies or notes for publication to: <Ham-Ant@UCSD.Edu>

Send subscription requests to: <Ham-Ant-REQUEST@UCSD.Edu>

Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Ant Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-ant".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 8 Aug 1994 17:17:58 GMT
From: news.sprintlink.net!bga.com!patm@uunet.uu.net
Subject: 900 MHz FM
To: ham-ant@ucsd.edu

Esam M. Salem (ems@engr.latech.edu) wrote:

: Can anyone help get the circuits for FM transmitter/receiver in the range of
902-928.

: I need the circuits for a project I'm working on.

Hamtronics (they advertise in QST and 73) has kit and assembled 900 MHz
receivers and transmitters. The receiver is triple conversion as I recall.

Patrick McGuire WA8PLR
Austin TX
patm@bga.com

Date: Fri, 5 Aug 1994 15:03:45 GMT
From: walter!fang!ulysses!lznj!lznj2!ncrhub2!ncrcae!news@uunet.uu.net
Subject: Bonehead: How do you tune an antenna with a noise bridge?
To: ham-ant@ucsd.edu

>In article <CtyzA0.BFp@wrs.com> Jerald Pendleton writes:
>I may be displaying extreme ignorance here but....
>
>I've been told that some hams use a noise bridge to tune their antenna
>using a transmatch. This has the advantage of not generating qrm while
>you get the antenna to resonance.
>
>How the heck do you do that?
>
>In my case I have a MFJ antenna tuner that shows forward and reflected
>power (and hence SWR). If I hook a noise bridge in in front of the
>tuner it certainly not going to put out enough energy to drive the
>swr meters.

>
>Do I need one of those gadgets than measure antenna impedance? If so,
>could someone point me a plans/kits for one (I've bought my last mfj)?

>
>Many Thanks,
>Jerry Pendleton

>--
>Jerald R. Pendleton Email: jerald@wrs.com, Personal Email: jrpend@netcom.com
>The preceeding message represents only the opinon of the author. This
>do not represent the opinions/positions of Wind River Systems, my mother,
>my wife or my poodle.>

That's a good question, and was the basis (I think) of the "tuner tuner" that
was
put out by Palomar Engineers. Here's the setup:
Attach your antenna to the 'output/antenna' of your tuner. Connect the 'input'
of your tuner to the "unknown" port/S0239 of the noise bridge. Connect the
"rcvr"
S0-239 to your receiver/transceiver.

Now, turn on the noise bridge and set the R (resistance) scale to 50 ohms and
set the Xc/Xl scale to 0 (zero). You should hear a rushing sound in your
receiver/transceiver. Adjust your tuner (leave the noise bridge alone) until
the noise in the receiver/transceiver is nulled. Your transceiver is now seeing
a 50 ohm match provided by your tuner. You can do this for any band you want to

operate, make up a chart, and basically set-and-forget unless you change your antenna dimensions.

MAJOR OBVIOUS WARNING: DO NOT TRANSMIT INTO THE NOISE BRIDGE.

I hope this helps. cheers...

73, Tom WB4iUX

My posting is my view only and not AT&T's. But you know that!

DX IS !!!!!

And always will be.....

Date: Mon, 8 Aug 94 15:44:21 BST
From: pa.dec.com!csu.napier.ac.uk!ee17@decwrl.dec.com
Subject: Correction RG58 vs Thin Ethernet
To: ham-ant@ucsd.edu

More Thin Ethernet vs RG 58U

>Don't the underlined figures indicate a mismatch somewhere, giving rise
>to resonance (swr) and hence frequency dependent effects?

Well spotted John ! The problem in the figures was nothing more than a transcription error in the 220MHz column. i.e. the 3.36 in the E/net row is for the RG58 and vice versa . Phew! glad I don't have to explain that one away.

The corrected table is shown below.

Freq	50	145	220	433	1300
RG58	1.28	2.45	3.36	5.47	9.8
E/Net	0.91	1.69	2.26	3.52	6.5

There is one other typo it should be $10 \log(25)$ not $10 \log(5)$

Please note also that this was a _comparative_ test, that is to say each cable had the same connectors so the effect of

these was assumed to be the same in each case.

To pre-empt the ever curious from asking, 'what about the thick yellow stuff ??' (not custard, cable) I can confirm that I am hoping to test a sample of this soon.

[Q. What's yellow and extremely dangerous ?

A. Shark infested Ethernet]

Well do _you_ know any better Ethernet jokes :-)

%% Alastair J. Downs	_ _ _ _ \	a.downs@csu.napier.ac.uk	%%
%% E.E & Comp.Eng.Dept.	\ \ \ \ \	phone +44 31 455 4389	%%
%% Napier University, Edinburgh	_	fax: +44 31 455 7938	%%
%% Scotland, UK	_ _	GM6NEI@GB7EDN.#77.GBR.EU	%%

Date: 8 Aug 1994 18:31:02 GMT
From: ihnp4.ucsd.edu!agate!spool.mu.edu!news.nd.edu!news1.oakland.edu!
newsxfer.itd.umich.edu!gatech!udel!news.udel.edu!diusys!dave@network.ucsd.edu
Subject: CushCraft 6M Yagi info?
To: ham-ant@ucsd.edu

I'm trying to find out what the element lengths should be
on a CushCraft 5 element 6 meter yagi model A50-5. Anyone
out there have a manual handy??

Thanks, Dave WA3U
dave@diusys.cms.udel.edu

Date: 8 Aug 94 14:35:42 GMT
From: news-mail-gateway@ucsd.edu
Subject: Ham-Ant Digest V94 #251 -Reply
To: ham-ant@ucsd.edu

I'm on vacation until August 22. I'll read your message and reply
when I return. If you need assistance with Emission Monitoring or
Stack Testing, please contact Jerry Keefe or Jack Harvanek. Thanks

Alan Hicks

Date: 8 Aug 1994 21:41:20 GMT
From: eng.iac.honeywell.com!ws08.iac.honeywell.com!dphillips@uunet.uu.net
Subject: WANTED:Flyecraft Antenna
To: ham-ant@ucsd.edu

I would like to buy a used flyecraft portable vertical antenna for either 40,20 or
15 meters.

--

Dave Phillips		"Takeoffs are optional,
Phoenix, AZ, USA		Landings are mandatory,
dphillips@WS07.iac.honeywell.com		Pilot error is not an accident,

KB7JS

| All airplanes have personalities."

Date: Tue, 9 Aug 1994 07:50:07 GMT
From: dog.ee.lbl.gov!agate!howland.reston.ans.net!usenet.ins.cwru.edu!eff!
news.kei.com!travelers.mail.cornell.edu!newsstand.cit.cornell.edu!
news.graphics.cornell.edu!ghost.dsi.@ihnp4.ucsd.edu
Subject: Which telesc. ant. for Yaesu ft-26 ?
To: ham-ant@ucsd.edu

I have a Yaesu ft-26 transceiver and I take it with me when
I go mountainering (for emergency case, rescue).
Freq. are 150 - 160 MHz.
I have a rubber antenna and I would like to know if
a telescopic antenna will increase the TX possibilities.
In this case, which model, type has the better quality/price ratio ?

Thank's in advance,
Christophe.

Date: Mon, 8 Aug 1994 22:44:34 GMT
From: news.acns.nwu.edu!news.eecs.nwu.edu!psuvax1!news.pop.psu.edu!
news.cac.psu.edu!howland.reston.ans.net!europa.eng.gtefsd.com!
newsxfer.itd.umich.edu!gumby!wmu-coyote!radams@ihnp4.ucsd.edu
To: ham-ant@ucsd.edu

References <w4qo.775888942@atl1>, <1994Aug3.163819.29347@sol.cs.wmich.edu>,
<w4qo.776147427@atl1>
Subject : Re: ??Loop or dipole ..BEST??

In article <w4qo.776147427@atl1>,
James C. Stafford <w4qo@peach.america.net> wrote:
>radams@cs.wmich.edu (Robert Adams) writes:
>
>>In article <w4qo.775888942@atl1>,
>>James C. Stafford <w4qo@peach.america.net> wrote:
>>>I'd vote for the loop.
>
>>Screw the loop! I'll take a folded dipole any day.
>
>Well, I might have thought the same thing a few years ago, but my friend
>Dave Fisher, WOMHS, has made a believer out of me. He wrote an article
>back in '84 (I think) for QST where he models out some of this stuff.

It was a good article, I remember it. However, I question the methodology

employed. I did the same thing in grad school - though differing results.

>I and a lot of friends started using the loops and they have performed
>remarkable well. I have not had a switch to compare to dipoles, but
>during contests they sure can provide good results especially in the
>300-600 mile range on 80 and the 500-1000 mile range on 40.

The loop has a definite advantage for close in work... but this detracts from long range potential. After all, you can only get so much blood out of a rock. <g> If someone doesn't care about performance beyond 1,000km on 80/75m (and many don't), and has the necessary room and supports for a loop (3 minimum), and those supports are high enough (>35 feet), the loop is an excellent choice - despite its detractors claim "A Loop is nothing more than a Folded Dipole wrenched apart." <g>

The Folded Dipole, OTOH, is the broadest (>6%) simple wire antenna there is (mine covers the entire 75m phone band under 2:1), has fantastic harmonic suppression (great if one lives in a TV fringe area), only requires two supports, and is quieter than the Loop or single wire dipole. This is in addition to its superiority over the Loop for DX, only marginally inferior to the Loop close in.

Mine is a shallow Vee; 55' at the apex, 35' at the ends, suspended from a tower crossbar. The radiator is constructed of 120' ladder-line, tied at the ends and one side broken in the middle for termination to a 4:1 current type balun, then fed with 50 ohm coax. Ask anyone on 3875 about the resultant signal... and consider I rarely run more than 100 watts.

As a PE in HF systems, 27 years of commercial experience (35 in ham radio) tells me the Folded Dipole is the most consistent performer on the block.

* Tonight's forecast is "Darkness".

Date: 8 Aug 1994 16:59:17 -0500
From: news.uiowa.edu!norand.com!westgj@uunet.uu.net
To: ham-ant@ucsd.edu

References <cc09Pc3w165w@jackatak.raider.net>, <y7eFkG84KB7Q057yn@suncd.abc.se>, <17008B5AF.R0264@vmcms.csuohio.edu>
Subject : Re: What coax feed to use for 2m antenna

Just a little hint on N-connectors,

If you have one of those hot wire strippers, you can grab the center pin of

N-connectors and either take it off or put it back on the coax center conductor.
Saves on the banging of the center pin on the table to clear out solder
from the inside.

I use a lot of 2nd hand N-connectors from surplus, this trick really saves time.

Guy
NOMMA
westgj@norand.com

Date: Sat, 6 Aug 1994 16:19:10 GMT
From: ihnp4.ucsd.edu!nntp.ucsb.edu!library.ucla.edu!europa.eng.gtefsd.com!gatech!
wa4mei!ke4zv!gary@network.ucsd.edu
To: ham-ant@ucsd.edu

References <tad.775955594@jove>, <31tp21\$qqm@aug2.augsburg.edu>,
<DWELLS.94Aug6094659@fits.cv.nrao.edu>h
Reply-To : gary@ke4zv.atl.ga.us (Gary Coffman)
Subject : Re: how to build a single band vertical?

In article <DWELLS.94Aug6094659@fits.cv.nrao.edu> dwells@nrao.edu (Don Wells)
writes:

>My friend gave me a copy of an advertisement from Advanced Electronic
>Applications (Lynnwood, WA, 206-775-7373) for their model ISO-144
>"IsoPole" antenna; price in 1991 was \$60. The antenna consists of
>several conical elements stacked on top of each other along a mast 125
>inches high; it has 50-ohm output impedance and apparently has no
>ground plane elements. The ad asserts "maximum gain possible for [the
>length]", "zero-degree angle of radiation for maximum range", "typical
>SWR less than 1.4 to 1 or better across the entire band". Frequency
>coverage is said to be 135-160 MHz, which just barely includes the RR
>band at 160-161. It also says "2:1 VSWR bandwidth: 10 MHz @ 146 MHz",
>but I don't understand whether or not that would be a bad thing (at
>160-161 we would be more than 10 MHz from 146).

>

>I am interested in putting an antenna on the roof of my house,
>probably attached to the chimney, to operate with my scanner in the RR
>band. Are the claims and specifications quoted above reasonable from a
>technical point of view, and will an antenna like the one described
>above give enough performance gain at 160-161 MHz to justify its price?
>Are there better possibilities?

Isopoles are good antennas. What they are telling you is that the 10 MHz
2:1 SWR bandwidth can be achieved over the range 135-160 MHz *by adjustment
of the antenna*. IE you can shorten the vertical element and move the
decoupling cones up the mast to achieve a 2:1 SWR across *any* 10 MHz

segment in the range. The antenna comes with lengths appropriate for 146 MHz, but the instructions tell you how to change that. As I said, this is a good antenna. It's mechanically strong compared to some other designs, and does offer good gain for it's size. However, there are better antennas in terms of performance, and better antennas in terms of cost. A copper pipe J-pole would make a good antenna, for example, and a colinear antenna for the RR frequencies would offer better gain, though in a longer package.

The problem is that there isn't a lot of demand for RR frequency specific antennas. A colinear like the Comet (17 feet tall and about \$124) would have much more gain than the Isopole at 2 meters, but wouldn't be worth spit at 162 MHz, and would be very hard to modify for that frequency. On the other hand, the Isopole is easy to modify for the RR frequencies, or a J-pole is simple to **build** for the desired frequencies (cheap too).

It should be noted that none of these antenna options will offer **dramatic** gain increases over a simple quarterwave groundplane mounted high and clear. For that you need a quad or yagi **beam**, and you have to **aim** those. For my money, I'd just build the copper pipe J-pole and mount it as high as I could.

>My friend also remarked "use a quality coax, can get losses". How
>important is this factor, and are any types or brands especially
>recommended? In my case, the cable run down through the attic to my
>basement shop will be at least 50 feet.

The quality of the transmission line is **critical** if you don't use a mast mounted preamp. Every db of cable loss before the first active stage translates directly into a db of decreased SNR for the receiver. No amount of receiver gain can make up for signal lost in the cable. About the best flexible cable you can buy is Belden 9913. You don't want to use RG-58, or the cheap Radio Shack RG-8 type cable.

A mast mounted preamp would be best, if you use a good one. (If the preamp isn't strongly resistant to intermod, it can make things worse.) Good preamps run \$70-\$199. The preamp then sets the SNR for your receiving system, and lesser quality cable can be used to bring the now much stronger signal to the receiver. Good preamps are available from Advanced Receiver Research and SSB Electronics.

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary

Lawrenceville, GA 30244

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End of Ham-Ant Digest V94 #252
